

## Cisco SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch: PoE

### Cisco Small Business Smart Switches

Cost-Effective, Secure Switching with Simplified Management for Your Growing Business

#### Highlights

- Connects up to 48 network devices - PCs, printers, and servers - to share and transfer files and videos across your network
- Resilient Clustering provides the ability to manage several switches as a single switch to support growing businesses
- Power over Ethernet easily and cost-effectively powers wireless access points, video cameras, and other network-connected endpoints
- Security down to the switch port level keeps unauthorized users off the network
- Simplified, web-based management enables easy installation and configuration

**Figure 1.** Cisco SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch: PoE



#### Product Overview

Growing businesses require cost-effective networking solutions that can scale to meet ever-changing business needs. The Cisco® SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch with Resilient Clustering technology (Figure 1) brings increased intelligence and security to the network infrastructure at a cost-effective price. It offers forty-eight 10/100 Ethernet (copper) ports with four 10/100/1000 Gigabit Ethernet copper or optional optical Small Form-Factor Pluggable (SFP) interfaces for connecting the switch to the core network.

Network security is a top priority in any size business; unauthorized access to the network and mission-critical data is a constant concern. The Cisco SLM248G4PS helps secure the network through 802.1X port authentication and MAC filtering. The 802.1X standard requires clients to authenticate themselves before they are given access to the network.

Resilient Clustering technology enables several switches to be clustered together and managed as a single switch with one web management interface and one IP address. This technology allows up to four SLM248G4PS switches (for up to 192 ports when combined with the Cisco SLM224G4S) to be set up in a switch cluster. Cisco SLM248G4PS switches can coexist in a switch

cluster with other Cisco Small Business Smart Switches that support Resilient Clustering technology - the Cisco SLM224G4PS, SLM224G4S, and SLM248G4S.

For wireless or VoIP deployments, the Cisco SLM224G4PS supports the IEEE802.3af standard for Power over Ethernet (PoE). This eliminates the need for additional power cables or a nearby power outlet. PoE-enabled devices such as IP cameras, IP phones, and wireless access points can be positioned in optimal locations such as in ceilings and walls - even outdoors - and in locations where there is no accessible power outlet, thereby reducing installation costs and making installations easier.

Businesses are recognizing the benefits of voice over IP (VoIP) technology and are quickly migrating their voice services to IP-based platforms, requiring their local area networks to support both voice and data applications. The extensive quality of service (QoS) features of the Cisco SLM248G4PS make the solution ideal for real-time applications such as voice and video. The four priority queues, together with weighted round-robin and strict priority scheduling techniques, let network administrators quickly prioritize real-time voice and video traffic over data traffic. Individual users or applications can also be prioritized above others, using various class of service options - by port, Layer 2 priority (802.1p), and Layer 3 priority (type of service [ToS] or differentiated services code point [DSCP]). Intelligent broadcast, multicast, and unknown unicast storm control minimize and contain the effects that these types of storms have on regular traffic. Internet Group Management Protocol (IGMP) snooping limits bandwidth-intensive video traffic to only the requestors without flooding to all users. Incoming traffic can be policed and outgoing traffic can be shaped, allowing network administrators to control network access and traffic flow.

The Cisco SLM248G4PS also includes features for network expansion and faster throughput performance. Link aggregation enables network administrators to create multiple high-bandwidth trunks between switches. This provides reliability because the system will continue to operate if one of the links breaks. Spanning Tree Protocol (STP) allows administrators to avoid network loops and to build a mesh of switches to increase the availability of their network.

The simplified user interface provides an intuitive, highly secure management platform, enabling administrators to better utilize the extensive feature set of the switch for a better-optimized, more secure network.

## Features

- Forty-eight 10/100 switched RJ-45 ports
- Four 10/100/1000 ports with two combo SFP slots
- Switching capacity delivers wire-speed performance at 17.6 Gbps nonblocking
- WebView monitoring allows administrators to view the current status and configuration using their favorite web browser
- PoE on 10/100 ports 1 through 12 and 25 through 36 supplies up to the IEEE 802.3af maximum of 180W power total
- Automatic medium dependent interface (MDI) and MDI crossover (MDI-X) cable detection
- Port-based and 802.1Q-based VLANs support up to 128 VLANs
- Port configuration settings for link, speed, auto MDI/MDI-X, flow control, and more
- Fully rack mountable using the included rack-mounting hardware
- MAC address table supports up to 8000 MAC address entries

- Optimal platform to support real-time applications, such as voice and video, by providing features like IGMP snooping, multiple queues (four) with appropriate scheduling techniques, prioritization of traffic based on port, 802.1p, IP ToS/precedence/DSCP, and line rate forwarding mechanisms
- Enhanced QoS functions, including rate limiting for ingress/egress and per flow at 64 kbps granularity
- HTTP interface
- User/network security via 802.1X (with RADIUS authentication) and MAC-based filtering
- Containment of storms - broadcast and multicast
- Increased expandability and availability across multiple switches using link aggregation
- Port trunking for up to eight groups with up to eight ports per group, allowing you to increase your bandwidth for each uplink or server connection
- Simple Network Management Protocol (SNMP) and Remote Monitoring (RMON) management expand your visibility options

## Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch.

**Table 1.** Specifications for the Cisco SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch: PoE

| Specifications                  |                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ports</b>                    | 48 RJ-45 connectors for 10BASE-T, 100BASE-TX, and 1000BASE-T with 4 Gigabit ports and 2 combo SFP slots                                                                                                                                                                                                                                                                  |
| <b>Buttons</b>                  | None                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Cabling type</b>             | Unshielded twisted pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX, UTP Category 5 Ethernet or better for 1000BASE-T                                                                                                                                                                                                                                             |
| <b>LEDs</b>                     | Power, Link/Act, Speed                                                                                                                                                                                                                                                                                                                                                   |
| Performance                     |                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Switching capacity</b>       | 17.6 Gbps, nonblocking                                                                                                                                                                                                                                                                                                                                                   |
| <b>MAC table size</b>           | 8000                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Number of VLANs</b>          | 128                                                                                                                                                                                                                                                                                                                                                                      |
| Switch clustering               |                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Switch cluster operation</b> | <ul style="list-style-type: none"> <li>• Maximum switch cluster size: 192 ports</li> <li>• Maximum number of units in switch cluster: 4</li> <li>• Hot insertion and removal</li> <li>• Ring and chain options</li> <li>• Master and backup master for resilient cluster control</li> <li>• Auto-numbering or manual configuration of units in switch cluster</li> </ul> |
| Management                      |                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Web user interface</b>       | Built-in web user interface for easy browser-based configuration (HTTP)                                                                                                                                                                                                                                                                                                  |
| <b>SNMP</b>                     | SNMP versions 1, 2c, and 3                                                                                                                                                                                                                                                                                                                                               |
| <b>SNMP MIBs</b>                | RFC1213 MIB-2, RFC2863 interface MIB, RFC2665 Ether-like MIB, RFC1493 bridge MIB, RFC2674 extended bridge MIB (P-bridge, Q-bridge), RFC2819 RMON MIB (groups 1, 2, 3, and 9 only), RFC2737 entity MIB, RFC 2618 RADIUS client MIB                                                                                                                                        |
| <b>RMON</b>                     | Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis                                                                                                                                                                                                                  |
| <b>Firmware upgrade</b>         | <ul style="list-style-type: none"> <li>• Web browser upgrade (HTTP)</li> <li>• Trivial File Transfer Protocol (TFTP) upgrade</li> </ul>                                                                                                                                                                                                                                  |

|                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Port mirroring</b>                                                                                                                                                                                                                                                                                       | Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe                                                                                                                                                                                               |
| <b>Other management</b>                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Switch audit log</li> <li>• Dynamic Host Configuration Protocol (DHCP) client</li> <li>• BOOTP</li> <li>• Simple Network Time Protocol (SNTP)</li> <li>• Xmodem upgrade</li> <li>• Cable diagnostics</li> <li>• Port mirroring</li> <li>• Ping</li> </ul> |
| <b>Security Features</b>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                    |
| <b>IEEE 802.1X</b>                                                                                                                                                                                                                                                                                          | 802.1X authentication: RADIUS; Extensible Authentication Protocol – Tunneled Transport Layer Security (EAP-TTLS), Protected EAP (PEAP), EAP-MD5, Cisco LEAP, EAP-TLS                                                                                                                               |
| <b>Access control</b>                                                                                                                                                                                                                                                                                       | ToS/DSCP                                                                                                                                                                                                                                                                                           |
| <b>Availability</b>                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                    |
| <b>Link aggregation</b>                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Link aggregation using IEEE 802.3ad Link Aggregation Control Protocol (LACP)</li> <li>• Up to 8 ports in up to 8 trunks</li> </ul>                                                                                                                        |
| <b>Storm control</b>                                                                                                                                                                                                                                                                                        | Broadcast and multicast                                                                                                                                                                                                                                                                            |
| <b>Spanning Tree</b>                                                                                                                                                                                                                                                                                        | IEEE 802.1d Spanning Tree, Fast Linkover                                                                                                                                                                                                                                                           |
| <b>IGMP snooping</b>                                                                                                                                                                                                                                                                                        | IGMP (versions 1 and 2) snooping provides for fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors                                                                                                                                |
| <b>QoS</b>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                    |
| <b>Priority levels</b>                                                                                                                                                                                                                                                                                      | 4 hardware queues                                                                                                                                                                                                                                                                                  |
| <b>Scheduling</b>                                                                                                                                                                                                                                                                                           | Priority queuing and weighted round-robin (WRR)                                                                                                                                                                                                                                                    |
| <b>Class of service</b>                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Port based</li> <li>• 802.1p VLAN priority based</li> <li>• IPv4 IP precedence/ToS/DSCP</li> </ul>                                                                                                                                                        |
| <b>Layer 2</b>                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                    |
| <b>VLAN</b>                                                                                                                                                                                                                                                                                                 | Port-based and 802.1Q-based VLANs, management VLAN                                                                                                                                                                                                                                                 |
| <b>Head-of-line (HOL) blocking</b>                                                                                                                                                                                                                                                                          | HOL blocking prevention                                                                                                                                                                                                                                                                            |
| <b>Jumbo frame</b>                                                                                                                                                                                                                                                                                          | Supports frame size up to 10 KB                                                                                                                                                                                                                                                                    |
| <b>Standards</b>                                                                                                                                                                                                                                                                                            | 802.3 10BASE-T Ethernet, 802.3u 100BASE-TX Fast Ethernet, 802.3ab 1000BASE-T Gigabit Ethernet, 802.3z Gigabit Ethernet, 802.3x flow control                                                                                                                                                        |
| <b>Environmental</b>                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                    |
| <b>Dimensions<br/>W x H x D</b>                                                                                                                                                                                                                                                                             | 17.32 x 1.75 x 13.81 in.<br>(440 x 44.45 x 350.8 mm)                                                                                                                                                                                                                                               |
| <b>Weight</b>                                                                                                                                                                                                                                                                                               | 9.59 lb (4.35 kg)                                                                                                                                                                                                                                                                                  |
| <b>Power</b>                                                                                                                                                                                                                                                                                                | 100–240V, 0.5A                                                                                                                                                                                                                                                                                     |
| <b>Certification</b>                                                                                                                                                                                                                                                                                        | FCC Part 15 Class A, CE Class A, UL CSA (CSA22.2), CE mark, CB                                                                                                                                                                                                                                     |
| <b>Operating temperature</b>                                                                                                                                                                                                                                                                                | 32° to 104°F (0° to 40°C)                                                                                                                                                                                                                                                                          |
| <b>Storage temperature</b>                                                                                                                                                                                                                                                                                  | -4° to 158°F (-20° to 70°C)                                                                                                                                                                                                                                                                        |
| <b>Operating humidity</b>                                                                                                                                                                                                                                                                                   | 20% to 95%, noncondensing                                                                                                                                                                                                                                                                          |
| <b>Storage humidity</b>                                                                                                                                                                                                                                                                                     | 5% to 90%, noncondensing                                                                                                                                                                                                                                                                           |
| <b>Package Contents</b>                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Cisco SLM248G4PS 48-Port 10/100 + 4-Port Gigabit Smart Switch</li> <li>• AC power cord</li> <li>• Rack-mounting kit with brackets and hardware</li> <li>• CD with user guide in PDF format</li> <li>• Online registration card</li> <li>• Console cable</li> </ul> |                                                                                                                                                                                                                                                                                                    |
| <b>Minimum Requirements</b>                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |

- Web-based utility: Microsoft Internet Explorer (version 5.5 or later)
- Category 5 Ethernet network cable

**Product Warranty**

5-year limited hardware warranty with return to factory replacement and 90-day limited software warranty

**Cisco Limited Warranty for Cisco Small Business Series Products**

This Cisco Small Business product comes with a 5-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to:

<http://www.cisco.com/go/smallbiz>.

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